ESYLUX

PD-FLAT 360i/8 RW DALI
EP10427541

PD-FLAT 360i/8 SW DALI
EP10427558

PD-FLAT 360i/8 RB DALI
EP10427916

PD-FLAT 360i/8 SB DALI
EP10427909

PD-FLAT-S 360i/8 RW DALI
EP10428708

PD-FLAT-S 360i/8 SW DALI
EP10428715

PD-FLAT-LS 360i/8 RW DALI
EP10428661

Detailed operating instructions

ESYLUX

Version	Date	Comment
MA00724800	18/05/2016	First edition with corrected item number of the remote control MobiI-PDi/Dali
MA00724801	13/02/2018	

An der Strusbek 40, 22926 Ahrensburg, Germany

Doc. no. MA007248_01

Contents

Doc. no. MA007248_01

1 Information about the document

These operating instructions contain detailed information about device functions and the processes for commissioning and assembling the specified devices.

This document is also available online at www.esylux.com and can be printed in A4 format.

Please read the operating instructions through in full and note all safety information and warnings.

1.1 Manufacturer address

ESYLUX GmbH
An der Strusbek 40
22926 Ahrensburg, Germany

Website: www.esylux.com
Email: info@esylux.com

1.2 Liability and damages

The product is designed only for the intended use, which is described in the corresponding chapter of these instructions. The device must not be changed, modified or painted — doing so will void any warranty claims.

Check the product for damage after unpacking. If the device is damaged in any way, return it to the relevant place of sale.

1.3 Product identification

These operating instructions apply to the following products:

Item number	Item designation
EP10427541	PD-FLAT 360i/8 RW DALI
EP10427558	PD-FLAT 360i/8 SW DALI
EP10427909	PD-FLAT 360i/8 SB DALI
EP10427916	PD-FLAT 360i/8 RB DALI
EP10428708	PD-FLAT-S 360i/8 RW DALI
EP10428715	PD-FLAT-S 360i/8 SW DALI
EP10428661	PD-FLAT-LS 360i/8 RW DALI

The item number and item name are also found on the type plate of the detector (see Page 10).

1.4 Highlighted information within the text

To make these user instructions easier to read, certain information is highlighted using different formatting.

The meaning of this formatting is explained below:

< > indicates remote control menu items and buttons

Grey indicates a function

➢ indicates a call for user action

✓ is used to highlight results of actions

indicates important and useful information

warns of high voltage

1.5 Warnings

Warnings are listed at the start of the relevant chapter if a hazardous situation is likely to occur.

The signal words have the following meanings:

DANGER!

This signal word denotes a hazard involving a high level of risk. Failure to observe the warning may lead to serious or fatal injury.

WARNING!

This signal word denotes a hazard involving a moderate level of risk. Failure to observe the warning may lead to serious or fatal injury.

ATTENTION!

This signal word denotes a hazard involving a low level of risk. Failure to observe the warning may lead to minor or moderate injury.

CAUTION!

This signal word warns against situations that could lead to instances of property damage if the information is not observed.

2 Basic safety information

2.1 Intended use

The ESYLUX ceiling-mounted presence detector is designed for small rooms and passageways that benefit from natural light.

The manufacturer will not accept any liability for instances of personal injury or property damage caused by improper use.

If you suspect that safe operation of the device cannot be guaranteed, you should turn the device off immediately and make sure that it cannot be operated unintentionally.

2.2 Safety instructions

Authorised personnel only

Electrical devices connected to a 230 V mains supply may only be assembled and commissioned by electrical installation technicians or trained electricians, taking country-specific regulations into account.

DANGER!

Risk of fatal injury from electric shock!

➢ The following five safety rules must always be observed:

1. Disconnect the power supply
2. Secure the power supply from being switched on again
3. Check that the relevant components have been de-energised
4. Set up the earthing and short-circuiting mechanisms as required
5. Cover or isolate neighbouring live parts.

3 Product description

3.1 Introduction

The ESYLUX Flat series ceiling-mounted presence detector is a passive infrared presence detector. It is designed for small rooms and passageways that benefit from natural light, and responds to moving heat sources. The ceiling-mounted presence detector can turn lighting on and off by detecting when people are present and according to the ambient light levels.

Properties

Main product features:

- 360° field of detection, 8 m range at an installation height of 3 m.
- DALI interface: Automatically controls light channels depending on presence and daylight.
- Control function: The presence detector is a control device for DALI equipment. There is no need to address the lights/electronic ballasts

connected by DALI separately. All ballasts are addressed at the same time via the broadcast address.

3.2 Overview of functions

Function	Benefit
Switch-on at brightness target value	The adjustable brightness target value prevents the light being switched on unnecessarily when there is sufficient ambient brightness.
Switch-off if no presence is detected	This function prevents the lighting being switched on unnecessarily.
Delay	Prevents the light being switched on and off repeatedly in changing light conditions.
Switch-off warning	The presence detector issues a warning that the light will soon be switched off.
Orientation light	Lighting with low power consumption.
Adjustable switch-off delay for orientation light	The duration of the orientation light can be adjusted.
Master/slave function	Motion detection range can be extended by connecting with other detectors.
Twilight switch function	Controls the lighting based solely on set brightness levels.

3.2.1 Switch-on and switch-off behaviour

Switching on

- The presence detector switches the light on if ambient brightness falls below the set level and motion is detected.

Switching off

- The presence detector switches off the light when no motion is detected and the switch-off delay time has expired.

A flashing red LED on the presence detector indicates that motion has been detected. The LED signals can be switched off. For more information, see the "Programming" section of the remote control instructions.

Switch-off delay

The presence detector stores changes in brightness over specified time periods, so that not every short-term change in brightness (for example caused by a passing cloud) triggers a switching process.

- The presence detector does not switch the light on until the brightness is below the set value for 30 seconds.
  During the switch-on delay period, the red LED is lit.
- The presence detector does not switch the light off until the brightness is above the set value for five minutes.

During the switch-off delay period, the red LED flashes.

The switching delay is not available in pulse mode.

3.2.2 Switch-off delay and switch-off warning

The switch-off delay is the period of time in which the presence detector does not switch off the light despite not detecting any motion. It begins from the moment at which no further movements are detected. The factory setting is five minutes. Each time a movement is detected, the switch-off delay starts again from the beginning.

When the switch-off delay has expired, the switch-off warning begins. It has a duration of 60 seconds. During the switch-off warning period, the light is dimmed to the brightness value of the orientation light.

If the presence detector detects a movement during this 60 seconds, it returns to the settings for detected presence. If the presence detector does not detect a movement during the switch-off warning, it switches the light off.

3.2.3 Master/slave function

The motion detection range of the detector can be extended by adding additional DALI presence detectors from the DALI Mini/Flat series. In extended configurations, it is important to ensure that only one detector is acting as the "master" and the other detectors as "slaves". ESYLUX recommends installing the master detector in the darkest location.

How it works

Address 15 is the read address of the master detector and the write address of the slave detector. The addresses cannot be changed. The slave detector sends an ON signal to the master detector every thirty seconds if it detects movement. The light measurements and switch-off delay time settings are defined via the master detector. A movement detected by a slave detector therefore causes the light to switch on if the ambient light is below the brightness target value on the master detector. If the light is already switched on, the movement detected by the slave detector leads to a restart of the switch-off delay.

You can use the remote control to define which detector acts as the master and which as the slave. For more information, see Chapter “Manufacturer address” from page 4.

3.2.4 Twilight switch operation

The presence detector can also be set for use as a twilight switch. In this case, the detector no longer switches the light on and off on the basis of motion. In this mode, the connected lights are always lit up 100%.

Switch-on value

The default switch-on value is 50 Lux. You can set different switch-on values using the remote control. You can also save the current light value as the switch-on value.

Switch-off value

The switch-off value is always twice the switch-on set value. If the default value of 50 Lux is used, the detector switches on below 50 Lux, and switches off above 100 Lux. To prevent the detector from reacting to every short-term change in light, the switch-off delay is permanently set to 5 minutes. For information about the switch-off delay, see “Switch-on and switch-off behaviour” from page 7.

For information on how to set the twilight mode, see Chapter “Manufacturer address” from page 4.

In twilight switch mode, the detector does not respond to any connected DALI buttons.

3.3 Setting the presence detector

The presence detector has no setting elements. It can be set in three ways:

- Using the button
- Using the ESYLUX universal remote control Mobil-PDi/MDi-universal, available as an accessory
- Using the ESYLUX Mobil-PDi/Dali remote control, available as an accessory

Setting via button

Using the button, you can temporarily change the brightness of the lighting. If the light is switched off and then on again, it therefore lights up with the preset values and not the values that were manually set using the button. For more details, refer to Chapter “Information about the document” from page 4.

The remote controls enable temporary settings and permanent, programmed settings. The setting options are not the same for the two remote controls:

Remote control Mobil-PDi/ MDi-universal

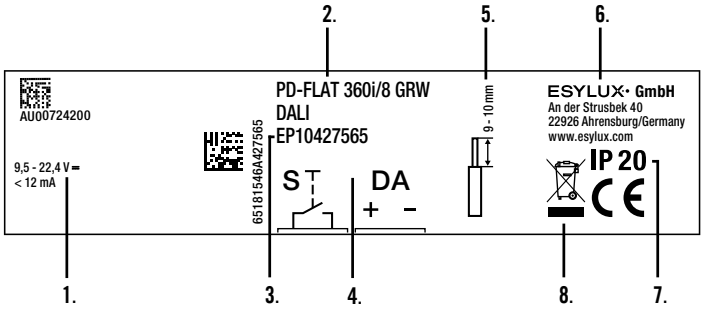
With the ESYLUX Mobil-PDi/MDi-universal remote control, you can make all possible settings. The remote control is available as an accessory from ESYLUX under item number EP10433993. The settings are explained in Chapter “Information about the document” from page 4.

Remote control Mobil-PDi/Dali

With the ESYLUX Mobil-PDi/Daliremote control, you can make a wide range of settings. Chapter “Information about the document” from page 4 provides the necessary information regarding whether these setting options are sufficient or whether the universal remote control would be more suitable.

The Mobil-PDi/Dali remote control is available as an accessory from ESYLUX under item number EP10425899.

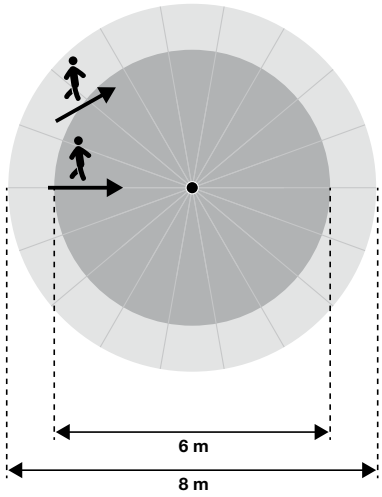
3.4 Type plate



1. Permitted voltage
2. Item designation
3. Item number
4. Connection assignment
5. Stripping length
6. Manufacturer details and address
7. Protection class
8. Disposal instructions

3.5 Field of detection

- Field of detection 360°.
- Detection range of 8 m at an installation height of 2.5 m.

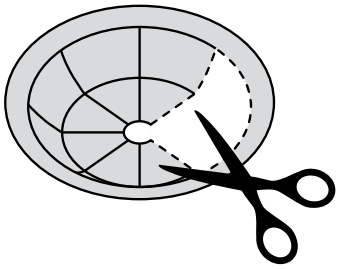


Movement crossways to the detector is ideal for detection. Direct and head-on approaches are more difficult to detect and therefore the range of the detector is significantly reduced.

The range specifications apply for an ambient temperature of approx. 20 °C.

Reduce the field of detection

Using the lens mask provided, specific areas of detection can be masked out.



4 Installation and connection

DANGER!

Risk of fatal injury from electric shock!

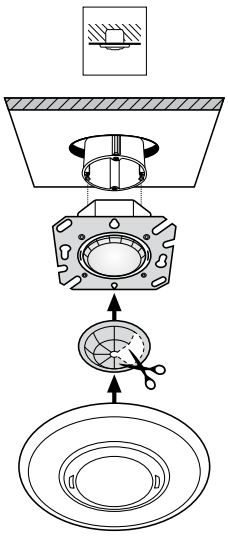
- Switch off the power to the cable.
- Check that the cable is de-energised.

The detectors are intended for flush mounting and for recessed ceiling mounting. For recessed surface ceiling mounting, use the ESYLUX PD-F recessed ceiling mounting set available as an accessory (item number EP10426889).

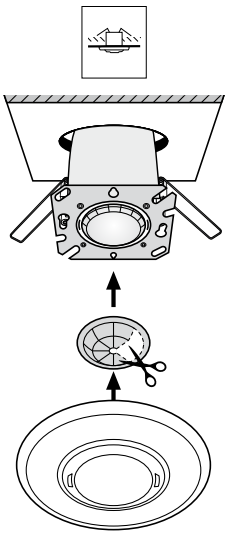
Choose an installation location where the detector has an unobstructed view, as infrared beams cannot penetrate solid objects.

Assembly variants

Flush mounting

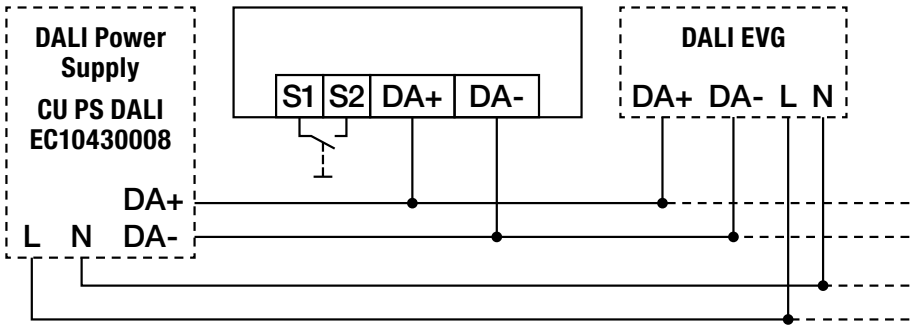


Recessed ceiling mounting
(using PD-F recessed ceiling mounting set, item no. EP10426889)



Connection

Connect the detector in accordance with the following circuit diagram:



Single connection	———
Parallel connection	- - - - - - - -
L:	Phase, 230 V
N:	Neutral conductor
S1/S2:	Connection for floating switch
DA+/DA-:	DALI bus voltage

5 Initial operation

➢ Connect the power supply.

Warm-up phase

✓ A warm-up phase of approx. 30 seconds is initiated. The red and the blue LED flash alternately. During this time, the lighting is switched on.

Factory settings

After the initialisation phase, the presence detector works with the following factory settings:

Light value	approx. 500 Lux
Switch-off delay time	5 min.
Sensitivity	100%
Operating mode	Fully automatic
Orientation light	On (10%)
Operation	Master

You can change these settings using the two remote controls named above.

6 Control via button

You can use an external button or a DALI button to make temporary settings. A lighting state that is set using a button remains set for as long as people are present in the room. Should these persons leave the detection range, the preset switch-off delay time will start. Once this time has elapsed, the detector will revert to the set operating mode. The next time the light is switched on, the preset lighting value is used, and not the lighting value set using the button.

6.1 Control via external button

The ceiling-mounted presence detector is equipped with a connection for an external button (terminals S1 and S2, see “Installation and connection” from page 11). The following commands can be issued using the external button:

- Press the button once briefly: switches the light on or off.
- Hold the button for longer than two seconds: Dim lighting. Keep the button held down until the required brightness is reached.

6.2 Control using the DALI button

The presence detector can receive commands from a DALI button via the DALI bus.

Prerequisite:

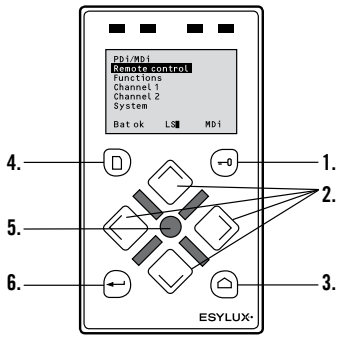
The DALI button must be set to address 15 to communicate with the detector.

The following commands can be issued using the DALI button:

- Switch the light channel on or off: press the button once briefly.
- Dim the light channel: hold down the button until the desired ambient brightness is reached.

7 Operation with the universal remote control

The infrared remote control Mobil-PDi/MDi-Universal enables electrical installation technicians to set all parameters and special functions easily and conveniently. The remote control is available as an accessory from ESYLUX under item number EP10433993.



1. Key button
1. Navigation buttons , , ,
2. Home button
3. SD button
4. OK button
5. Return button

For optimum reception, when programming the settings, point the remote control at the detector.
Please note that if the sensor is exposed to direct sunlight, the standard detection range of approx. 8 metres may be reduced due to the infrared rays in the sunlight.

7.1 Setting up the infrared remote control

The universal remote control contains different sets of commands for a wide range of products. Before you can set the presence detector, you first need to set the suitable command set.

1. Switch on the remote control using the button.
2. On activation, confirm the highlighted menu item <Remote controls> with the button.
3. Press the button to select the <DALI Plus> remote control, and

confirm your selection with the button.

✓ The remote control is now set up for setting the presence detector.

Automatic switch-off

The remote control automatically switches off if it has been inactive for one minute.

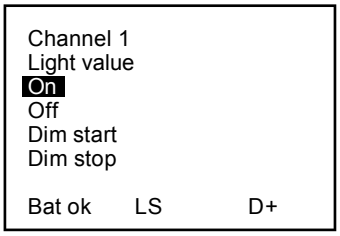
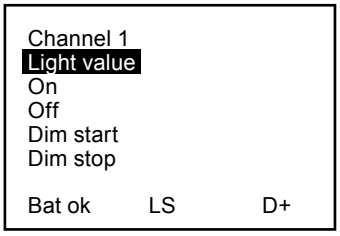
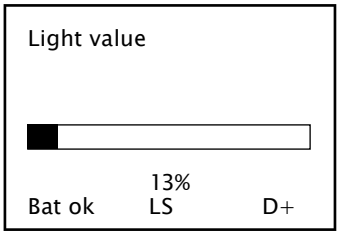
7.2 Making temporary settings

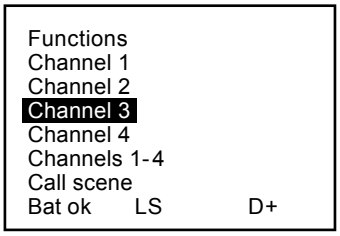
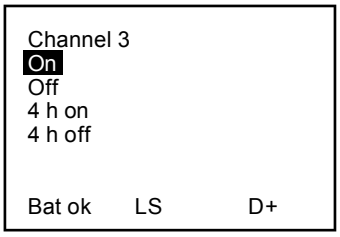
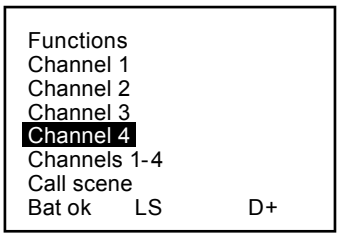
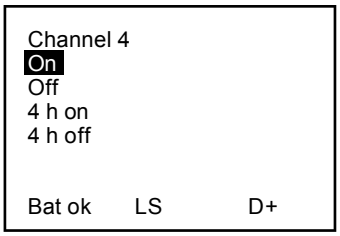
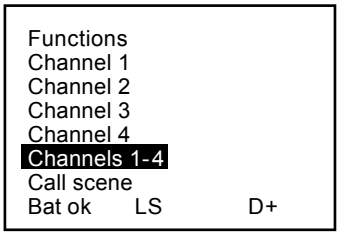
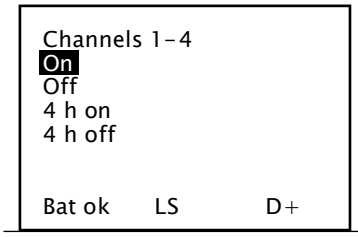
To make temporary settings, choose the <Functions> menu item.

1. In the main menu of the remote control, select the <Functions> menu item and select the button to confirm your selection (referred to in the following as the <OK button>).

The following functions area available for temporary settings:

Menu item	Explanation of the function
Functions Channel 1 Channel 2 Channel 3 Channel 4 Channels 1–4 Call scene Store scene Reset Test Bat ok LS D+	**Menu item <Functions>** <Channel 1> is preselected. Press the <OK button> to confirm your selection. The menu item <Channel 2> does not have any function in the Flat series presence detectors. It is used to control Duo-DALI devices.

Menu item	Explanation of the function
	**Menu items under <Functions> - <Channel 1>**
	**<Light value>** Enter the luminous efficiency of channel 1 with a percentage value between 0 and 100%.
	
	<On>/<Off> Switch the light for channel 1 on or off for the duration of the switch-off delay time. The switch-off delay time will start again each time movement is detected.
	<Dim start> Dim the lighting of channel 1. The direction of dimming is reversed when maximum and minimum brightness is reached.
	<Dim stop> Stop the dimming process and continue the current lighting value for the duration of the switch-off delay.

Menu item	Explanation of the function
 	**Menu items under <Functions> - <Channel 3>** **<On>/<Off>** Switches channel 3 (external switching relay) on or off for the duration of the switch-off delay time. **<4 h on>/<4 h off>** Switches channel 3 (external switching relay) on or off for 4 hours.
 	**Menu items under <Functions> - <Channel 4>** **<On>/<Off>** Switches channel 4 (external switching relay) on or off for the duration of the switch-off delay time. **<4 h on>/<4 h off>** Switches channel 4 (external switching relay) on or off for 4 hours.
 	**Menu items under <Functions> - <Channel 1-4>** **<On>/<Off>** Switches all channels on or off for the duration of the switch-off delay time. **<4 h on>/<4 h off>** Switches all channels on or off for 4 hours.

Menu item	Explanation of the function
Functions Channel 4 Channels 1–4 **Call scene** Store scene Reset Test Bat ok LS D+	**Menu items under <Functions> - <Call scene>** Activate the light values of channels 1 to 4, that have been saved as scenes.
Call scene **Scene 1** Scene 2 Scene 3 Scene 4 Bat ok LS D+	
Functions Channel 4 Channels 1–4 Call scene **Store scene** Reset Test Bat ok LS D+	**Menu items under <Functions> - <Store scene>** Save the current values for the channels under one of four scenes.
Store scene **Scene 1** Scene 2 Scene 3 Scene 4 Bat ok LS D+	
Functions Channel 4 Channels 1–4 Call scene Store scene **Reset** Test Bat ok LS D+	**<Reset>** Delete temporary values. The detector returns to the preset operating mode.
Functions Channel 4 Channels 1–4 Call scene Store scene Reset **Test** Bat ok LS D+	**<Test>** Switches on the light with maximum brightness for test purposes. Press the button again to end test mode.

7.3 Permanent settings: Programming

So that the presence detector saves your entries, you need to switch it to programming mode using the remote control. After you enter the required values, exit programming mode.

To activate programming mode, proceed as follows:

➢ Press the button.

✓ The blue LED lights up and the lighting is switched on.

To exit programming mode, proceed as follows:

Prerequisites:

- The blue LED is lit.

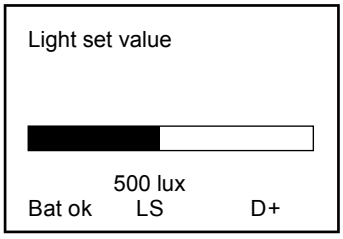
➢ Press the button.

✓ Your settings are saved and programming mode is closed.

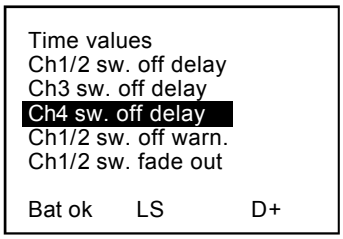
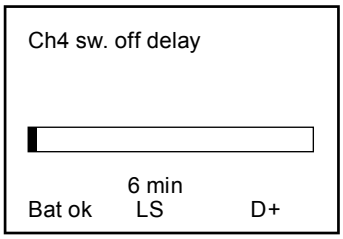
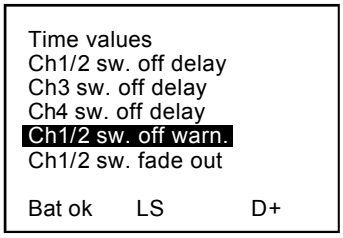
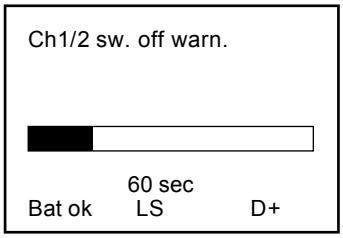
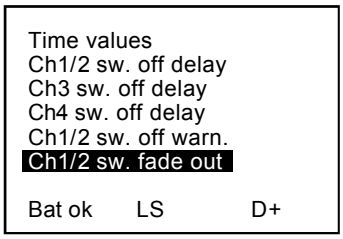
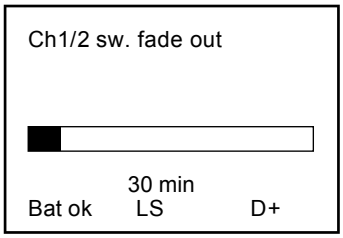
✓ The blue LED goes out.

Please note: Each programming step must begin with activation of programming mode, and end with deactivation of programming mode.
This start and end step is not mentioned specifically in the following programming steps.

Menu item	Explanation of the function
Programming Light values Time values Operating modes Operating options DALI Factory reset Bat ok LS D+	**Overview of sub-items in the <Programming> menu** **<Light values>** Set the DIM values and offset settings. **<Time values>** Set the switch-off delay times for the channels. **<Operating modes>** Set the channels to semi-automatic or fully automatic mode.

Menu item	Explanation of the function
	<Operating options> Set additional functions such as switching the detector LED on and off. **<DALI>** Setting options for connected DALI electronic ballasts. **<Factory reset>** Reset all settings to the factory default settings.
	**The submenus under <Programming> - <Light values>** **<Light set value>** Target light value in lux to which the detector adjusts the lighting. Possible values: 100 - 1000 Lux. CAUTION: Measured value depends on measurement environment (reflection coefficient). **<Daylight control>** When this function is activated, the detector adjusts the light to 100% luminous efficiency when motion is detected. **<Light value>** Adjust the luminous efficiency of channel 1 to values between 0 – 100% as the target light value. **<Store current value>** Save the currently measured light value as the target light value.

Menu item	Explanation of the function
	<Orientation light> Set the brightness of the orientation light to values between 10% and 50%. The orientation light is the light value that the detector switches to if the switch-off delay time has elapsed and the measured light value is below the target light value.
Time values Ch1/2 sw. off delay Ch3 sw. off delay Ch4 sw. off delay Ch1/2 sw. off warn. Ch1/2 sw. fade out Bat ok LS D+	**The submenus under <Programming> - <Time values>**
Ch1/2 sw. off delay 5 min Bat ok LS D+	**<Ch1/2 sw. off delay>** Set the length of time for which channel 1 remains switched on after the last presence was detected. Possible values: 1 to 240 minutes.
Time values Ch1/2 sw. off delay Ch3 sw. off delay Ch4 sw. off delay Ch1/2 sw. off warn. Ch1/2 sw. fade out Bat ok LS D+	**<Ch3 sw. off delay>** Set the length of time for which channel 3 remains switched on after the last presence was detected. Possible values: 1 to 240 minutes.
Ch3 sw. off delay 30 min Bat ok LS D+	

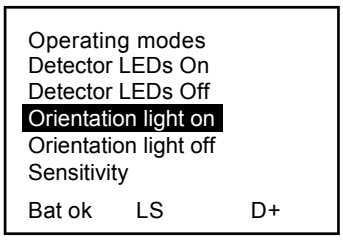
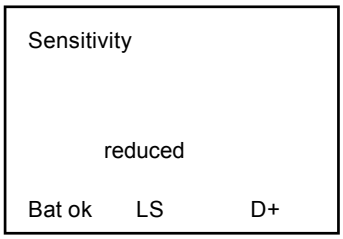
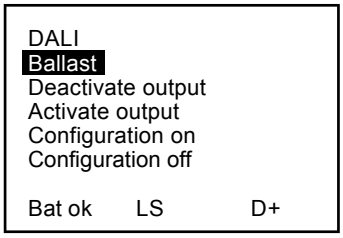
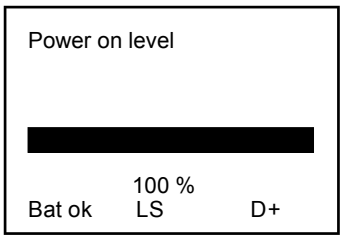
Menu item	Explanation of the function
 	**<Ch4 sw. off delay>** Set the length of time for which channel 4 remains switched on after the last motion or presence was detected. Possible values: 1 to 240 minutes.
 	**<Ch1/2 sw. off warn.>** Set the switch-off warning time to values between 1 and 240 seconds. Once the switch-off delay time has expired, the detector switches to switch-off warning mode before completely switching off the channels. The light is reduced to the orientation light value. If motion is detected during the switch-off warning time, the detector returns to the previous operating mode.
 	**<Ch1/2 sw. fade out>** Set the fade-out time (fade-out time of the orientation light) to values between 0 and 240 minutes. Once the switch-off delay time has expired, the detector switches to the fade-out time before completely switching off the channels. The functions prevents frequent activation of the lights in highly frequented areas.

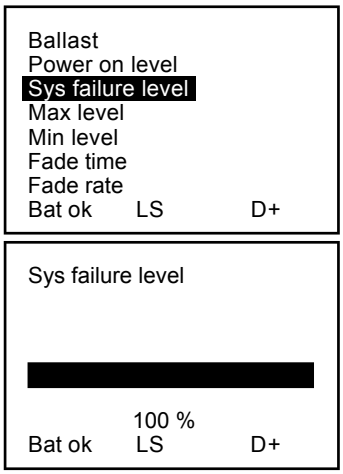
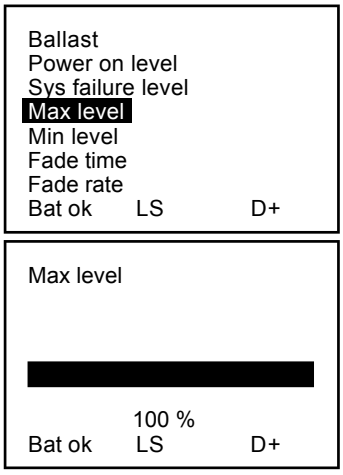
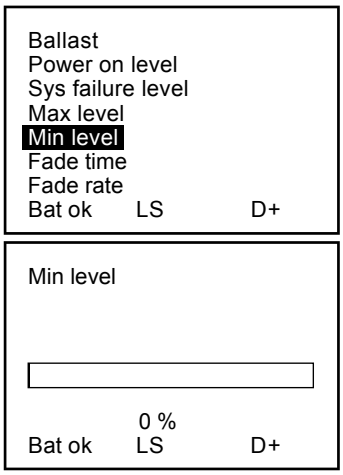
Menu item	Explanation of the function
Programming Light values Time values **Operating modes** Operating options DALI Factory reset Bat ok LS D+	**The submenus under <Programming> - <Operating modes>**
Operating modes **Fully automatic** Ch1/2 semiaut. class. Ch1/2 semiaut. smart Ch3 fully automatic Ch3 semiautomatic Ch3 pulse Bat ok LS D+	**<Fully automatic>** When fully automatic mode is activated, the detector switches channels 1 and 2 on and off automatically. **<Ch1/2 semiaut. class.>** When semi-automatic mode is selected, the light must be switched on by pressing a button. If the measured light value exceeds the preset threshold value, the detector switches to 10% light and waits for a button to be pressed within one minute. If no button is pressed, the detector switches off again. The button needs to be pressed again to switch the channels back on. **<Ch1/2 semiaut. smart>** When semi-automatic smart mode is selected, the light must be switched on by pressing a button. If the measured light value exceeds the preset threshold value, the detector switches to 10% light and waits for a button to be pressed within one minute. If no button is pressed, the detector switches off. Difference to semi-automatic classic: If the measured light value falls below the preset threshold value, the detector switches on channel 1 if continued presence is detected.

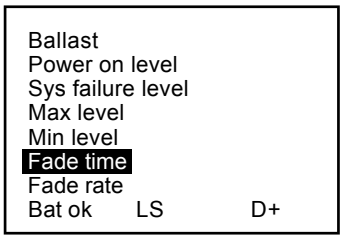
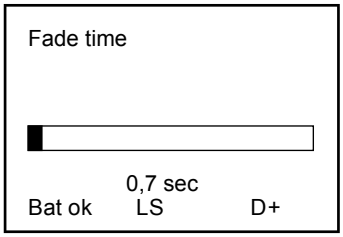
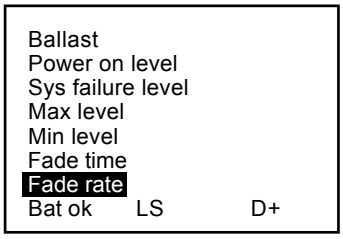
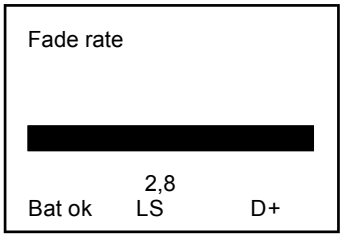
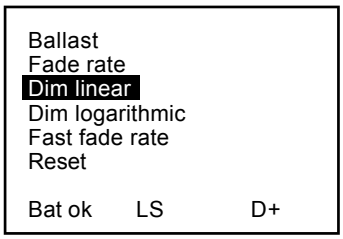
Menu item	Explanation of the function
Operating modes Fully automatic Ch1/2 semiaut. class. Ch1/2 semiaut. smart **Ch3 fully automatic** Ch3 semiautomatic Ch3 pulse Bat ok LS D+	**<Ch3 fully automatic>** When fully automatic mode is activated, the detector switches channel 3 on and off automatically.
Operating modes **Ch3 semiautomatic** Ch3 pulse Ch4 fully automatic Ch4 semiautomatic Ch4 pulse Bat ok LS D+	**<Ch3 semiautomatic**> When semi-automatic mode is activated, the connected button must be pressed to switch on channel 3.
	<Ch3 pulse> If Ch3 pulse is activated, channel 3 switches on for 5 seconds and off for 5 seconds when motion is detected.
Operating modes Ch3 semiautomatic Ch3 pulse **Ch4 fully automatic** Ch4 semiautomatic Ch4 pulse Bat ok LS D+	**<Ch4 fully automatic>** When fully automatic mode is activated, the detector switches channel 4 on and off automatically.
	<Ch4 semiautomatic> When semi-automatic mode is activated, the connected button must be pressed to switch on channel 4.
	<Ch4 pulse> If Ch4 pulse is activated, channel 4 switches on for 5 seconds and off for 5 seconds when motion is detected.
Operating modes Ch4 semiautomatic Ch4 pulse **Presence/Master On** Master/Twilightswitch SLAVE On Light Regulation On Bat ok LS D+	**<Presence/Master On>** Switches the detector to “Presence detector with master function” as per the factory settings. For more information about the master function, see Chapter “3.2.3 Master/slave function” on page 8.

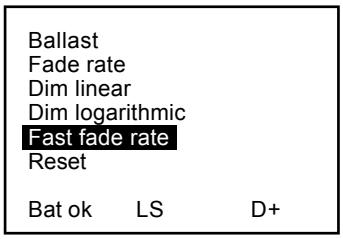
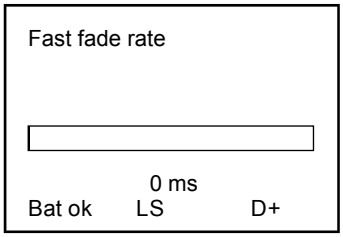
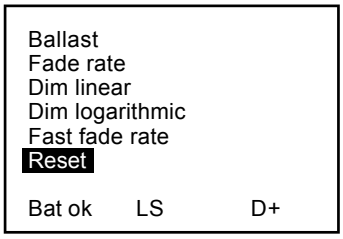
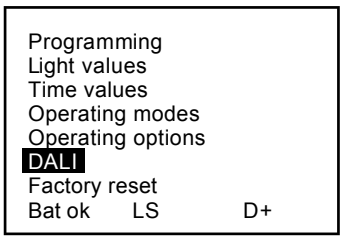
Menu item	Explanation of the function
Operating modes Ch4 semiautomatic Ch4 pulse Presence/Master On Master/Twilightswitch SLAVE On Light Regulation On Bat ok LS D+	**<Master/Twilightswitch>** Switch the detector to twilight switch mode. For more information, see Chapter “3.2.4 Twilight switch operation” on page 8. **<SLAVE On>** When <SLAVE On> is activated, the detector switches in response to the presence notifications of an additional, connected DALI presence detector from the DALI Mini/Flat series. For more information, see Chapter “3.2.3 Master/slave function” on page 8. **<Light Regulation On>** Lighting is controlled based on the target light value and the measured brightness, without taking into account any detected presence.

Menu item	Explanation of the function
Programming Light values Time values Operating modes **Operating options** DALI Factory reset Bat ok LS D+	**The submenus under <Programming> - <Operating options>**
Operating options **100 h burn in on** 100 h burn in off Corridor on Corridor off Detector LEDs On Detector LEDs Off Bat ok LS D+	**<100 h burn in on>** Switch on channels 1 and 2 for 100 hours, to "burn in" the illuminants. **<100 h burn in off>** Turn off the burn-in process before the end of 100 hours. **<Corridor on>** If <Corridor on> is enabled, channels 1 and 2 cannot be switched off using the button. **<Corridor off>** If <Corridor off> is enabled, channels 1 and 2 can be switched off using the button.
Operating modes **Detector LEDs On** Detector LEDs Off Orientation light on Orientation light off Sensitivity Bat ok LS D+	**<Detector LEDs On>** Enable the confirmation of presence detection with the red detector LED. **<Detector LEDs Off>** Disable the confirmation of presence detection with the red detector LED.

Menu item	Explanation of the function
	**<Orientation light on>** Switch on the orientation light for channel 1 and 2 to the set value when the switch-off delay has expired and after the switch-off warning time (if activated > 0 min.).
	**<Orientation light off>** Switch off channels 1 and 2 when the switch-off delay has expired and after the switch-off warning time (if activated > 0 min.). **<Sensitivity>** Set the sensitivity of presence detection. Setting values: Normal - reduced - greatly reduced. Factory setting: normal. **<Wall/Ceiling>** Switch the light value measurement between ceiling mounting and wall mounting. Acknowledgement of switching to ceiling mounting: red LED lights up. Acknowledgement of switching to wall mounting: green LED lights up.
	**The submenus under <Programming> - <DALI> - <Ballast>** This submenu contains setting options for connected DALI electronic ballasts.
	**<Power on level>** Once the device has been connected to the power supply, it operates at a preset output value (0-100%) unless the value of the DALI presence detector is changed.

Menu item	Explanation of the function
	**<System failure level>** Set the light value that the electronic ballast uses when faults occur in the DALI bus voltage. Possible values 0 – 100%.
	**<Max level>** Set the maximum brightness in percent (0 – 100%).
	**<Min level>** Set the minimum brightness in percent (0 – 100%).

Menu item	Explanation of the function
 	**<Fade time>** Set the time during which the light fades from the current value to the value specified by the DALI command “direct arc power value”.
 	**<Fade rate>** Set the fade rate for the DALI commands “DIM-UP” and “DIM-DOWN” (steps per second.)
	**<Dim linear>** Switch the DIM curve to linear behaviour (LED ballasts only). **<Dim logarithmic>** Switch the DIM curve to logarithmic behaviour.

Menu item	Explanation of the function
 	**<Fast fade rate>** Set the fast fade rate between 0 and 675 ms (LED ballasts only). This command can only be used in conjunction with DALI ballasts.
	**<Reset>** Reset the DALI operating devices to their factory settings.
	**Submenu <Programming> - <DALI>** continued

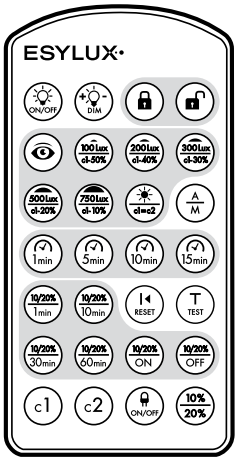
Menu item	Explanation of the function
DALI Ballast **Deactivate output** Activate output Configuration on Configuration off Bat ok LS D+	**<Deactivate output>** Prevents any detector outputs from the detector to the DALI bus to enable an external configurator to configure the operating devices without error (only enabled in programming mode). **<Activate output>** Activate the normal output of the detector in programming mode. If activated, external DALI interfaces can be damaged by "command collisions". **<Configuration on>** The detector configures all electronic ballasts that can be reached in the DALI bus independently to enable easy communication with the DALI detector. **<Configuration off>** The detector does not configure the electronic ballasts that can be reached in the DALI bus independently.
Programming Light values Time values Operating modes Operating options DALI **Factory reset** Bat ok LS D+	**<Programming> - <Factory reset>** **<Factory reset>** Resets all detector settings back to the factory default setting.
Factory reset Back **Factory reset** Bat ok LS D+	**<Factory reset>** Required confirmation for resetting to factory settings or choose the <Back> menu item to cancel.

8 Operation with the Mobil-PDi/Dali remote control

The Mobil-PDi/Dali remote control is available as an accessory from ESYLUX under item number EP10425899.

As with the universal remote control, you can make temporary and permanent settings with the Mobil-PDi/Dali remote control.

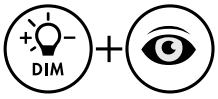
For optimum reception, when programming the settings, point the remote control at the detector.
Please note that if the sensor is exposed to direct sunlight, the standard detection range of approx. 8 metres may be reduced due to the infrared rays in the sunlight.



8.1 Making temporary settings

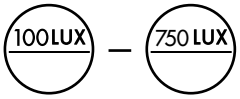
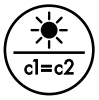
Button	Function
	**ON/OFF** Manually switch the lighting on/off. **"ON"** acknowledgement: Two short flashes of the red LED when motion is detected. **"OFF"** acknowledgement: One short flash of the red LED when motion is detected. Note: The ON/OFF mode can be cancelled using the <Reset> button.

Button	Function
	**Reset/settings** Pressing this button deletes temporary settings. The detector returns to the preset operating mode.
	**Test** Operating mode for testing the detection range. **Acknowledgement:** The connected lighting is switched on. Two short flashes of the blue LED when movements are detected, enables the user to step out of the field of detection. Note: Exit test mode by pressing the <TEST> or <RESET> button.

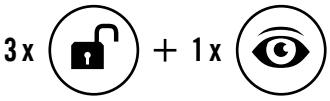
Button	Function
	**Set the required light value using the dimming function** ➢ Press the DIM 1 button once ✓ The dimming process begins. The direction of dimming is reversed when the maximum or minimum value is reached. **Stop the dimming function at the required level** ➢ Press the <Eye> button. ✓ The dimming process stops. This light value will be maintained for as long as persons are present in the room. Should these persons leave the detection range, the presence detector will revert to the previous setting mode after the default time setting has elapsed. This combination of buttons has the same function as the **Dim** button, see “Control via button” from page 13.

8.2 Permanent settings: Programming

Please note: Each programming setting must begin with activation of programming mode, and end with deactivation of programming mode, to ensure that your input is saved.
The first two actions of the following table therefore have to be performed at the beginning and end of all other permanent settings.

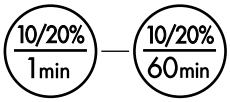
Button	Function
	**Activate programming mode** ➢ Press the button. ✓ After you press this button, the detector is in programming mode. ✓ **Acknowledgement**: the blue LED is permanently it, the lighting is switched on.
	**Exit programming mode** ➢ Press the button. ✓ Pressing this button saves the set parameters on the detector and the presence detector returns to the normal operating mode. ✓ **Acknowledgement**: The blue LED is switched off.
	**Set the brightness switching value** Possible values: 100, 200, 300, 500, 750 Lux. ➢ Press the required button ✓ The detector switches the lighting on if the target brightness value is below the preset lux value and when it detects a movement. ✓ **Acknowledgement:** red and blue LEDs flash alternately three times.
	**Set the detector to daytime mode** ➢ Press the button ✓ The light measurement is deactivated. When switched on, the connected light works with the set maximum luminous efficiency. ✓ **Acknowledgement:** red and blue LEDs flash alternately three times.

Button	Function
	**Save the current ambient light value as switch-on light value** ➢ Press the button ✓ The current ambient light value (between 5 - 2000 lux) is entered as the target light value. ✓ **Acknowledgement**: the blue LED switches off briefly after the remote control signal is received. Once the input process has been successfully completed, the lighting turns on and the blue LED lights up continuously until programming mode is ended.
	**Activate fully-automatic/semi-automatic mode** The detector can control the light in fully-automatic and semi-automatic mode. Press this button to switch between fully-automatic and semi-automatic mode. **Fully automatic**: The lighting is switched on depending on the set lux value and movement being detected. If movement is no longer detected, the preset switch-off delay time begins. ➢ Press the button. ✓ Fully-automatic mode is enabled. ✓ **Acknowledgement**: blue LED flashes 3 times. The currently active mode can be overridden by external buttons.

Button	Function
	**Semi-automatic**: The lighting is activated by external buttons. The lighting remains switched on for as long as movement is detected and the target brightness value is greater than the preset lux value. ➢ Press the button. ✓ Semi-automatic mode is enabled. ✓ **Acknowledgement**: blue LED turns off for approx. 3 seconds.
	**Switch detector LEDs On/Off** The LEDs in the detector can be switched on or off. Press this button to switch between on and off. ➢ Press the button ✓ **Acknowledgement that LEDs are off**: blue LED turns off for approx. 3 seconds. ✓ **Acknowledgement that LEDs are on**: blue LED flashes 3x.
	**Light level switching** ➢ Press the <Activate Programming Mode> button three times. ➢ Press the <Eye> button once. ✓ The light value measurement switches between ceiling and wall mounting. ✓ **Acknowledgement of ceiling mounting:** red LED is lit (factory settings). ✓ **Acknowledgement of wall mounting:** green LED is lit.

Button	Function
	**Restore factory settings** ➢ Press the <Reset> button. ✓ The presence detector returns to using the factory settings. ✓ **Acknowledgement:** Red LED flashes 3 x. Confirmed by blue and red LED on the detector briefly flashing alternately.
	**Activate the orientation light** The orientation light is a "night light" function. It can be lit with 10 or 20% of the maximum brightness. Press this button to switch between 10% and 20%. **Activation with 10%:** ➢ Press the button. ✓ **Acknowledgement:** red LED flashes 3 times. **Activation with 20%:** ➢ Press the button again. ✓ **Acknowledgement:** red LED flashes 3 times. **Example for use of the orientation light:** If the natural light in a room decreases and the lighting level falls below the light value set on the detector (e.g.: 400 Lux), the light on the activated orientation light is automatically dimmed to approx. 10% or 20% of the maximum luminous efficiency.

Button	Function
	If motion is detected, the detector regulates the lighting to the preset light value. If the presence detector no longer detects motion, the lights revert to approx. 10% or 20% of their maximum luminous efficiency once the set switch-off delay time has elapsed. If the ambient brightness is greater than the preset light value, the presence detector automatically switches the orientation light off.
	**Set the orientation light brightness** The orientation light can light up with 10% or 20% of the maximum luminous efficiency. Press this button to switch between 10% and 20%. **Set to 10%:** ➢ Press the button. ✓ **Acknowledgement:** green LED flashes. **Set to 20%:** ➢ Press the button again. ✓ **Acknowledgement:** red LED flashes.

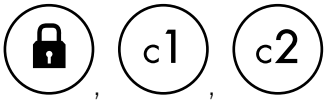
Button	Function
	**Activate the orientation light switch-off delay with 10% or 20% of the luminous efficiency with a switch-off delay time of 1 minute to 60 minutes** The orientation light switch-off delay can be set to 1, 10, 30, or 60 minutes. **Set the switch-off delay to the required duration with 10% or 20% luminous efficiency:** ➢ Press the button for the required time. ➢ Press the button again to switch between 10% and 20% luminous efficiency. ✓ Confirmed by blue and red LED on the detector briefly flashing alternately.
	Application example: The light has been switched on, either automatically, by the light switch, or by remote control. If the presence detector no longer detects motion, it switches to approx. 10% or 20% of the luminous efficiency once the switch-off delay time has elapsed. The selected orientation light switch-on time (e.g. 10 minutes) will now begin. If the detector detects new movement within this period, it returns the lighting to the preset light value. If, however, no new movement is detected within this period, the orientation light is switched off automatically.

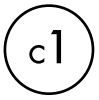
Button	Function
	**Deactivating the orientation light (10% or 20% of luminous efficiency)** **Deactivate at 10%:** ➢ Press the button. ✓ **Acknowledgement:** red LED flashes 3 times. **Deactivate at 20%:** ➢ Press the button again. ✓ **Acknowledgement:** red LED flashes 3 times. Confirmed by blue and red LED on the detector briefly flashing alternately.

8.3 Master/slave configuration

The motion detection range of the detector can be extended by adding additional DALI presence detectors from the DALI Mini/Flat series. Only one detector can work as the "Master" at any one time. The others must be set to "Slave" mode. For more information, see Chapter “3.2.3 Master/slave function” on page 8.

All switch-off delay time settings and light value settings must always be configured on the master detector.

Button	Function
	**Query whether master or slave mode is active** ➢ Press one of the buttons <Lock>, <C1> or <C2>. ✓ The detector LEDs indicate the status. Master mode: red LED flashes 3 x. Slave mode: green LED flashes 3 x.

Button	Function
	**Switch from master detector to slave detector** ➢ Press the <Unlock> button. ✓ Programming mode is active, the blue LED is lit. ➢ Press button C2 until the green LED flashes 3 times. ➢ Press the <Lock> button. ✓ The detector is now in slave mode and programming mode is ended.
	
	
	**Switch from slave detector to master detector** ➢ Press the <Unlock> button. ✓ Programming mode is active, the blue LED is lit. ➢ Press button C1 until the red LED flashes 3 times. ➢ Press the <Lock> button. ✓ The detector is now in master mode and programming mode is ended.
	
	

8.4 Twilight switch mode

The detector can be configured to act as a twilight switch.

The standard switching value is 50 lux. However, the light values specified on the remote control can also be selected, or the current light value can be read and stored using the "Eye button" on the remote control.

In this mode, the connected lights are always lit up 100%.

In twilight switch mode, the detector does not respond to any connected DALI buttons.

Button	Function
	**Switch from presence detector to twilight switch** ➢ Press the <Unlock> button. ✓ Programming mode is active, the blue LED is lit. ➢ Press button C1 until the purple LED flashes 3 times. ➢ Press the <Lock> button. ✓ The detector is now in twilight switch mode and programming mode is ended.
	**Query twilight switch mode** ➢ Press one of the buttons <Lock>, <C1> or <C2>. ✓ The detector LEDs indicate the status: Purple LED flashes 3 x: Twilight switch. Red LED flashes 3 x: Master mode. Green LED flashes 3 x: Slave mode.

9 Technical information

Operating voltage	9.5 – 22.4 V ⎓
Target brightness value approx.	5 - 2000 Lux
Switch-off delay time	approx. 15 sec. - 30 mins.
Protection type/Protection class	IP 20/-
Operating temperature range	0°C to +50°C

10 Troubleshooting

Fault	Cause/solution
Lighting does not switch on.	• Ambient light level is above the preset target brightness value • Lighting has been switched off manually. • The people are outside the range of detection. • There are sources of thermal interference within the field of detection, e.g. heating or air-conditioning. • There are moving objects within the field of detection, such as curtains next to an open window. • The switch-off delay time setting is too short.
Lighting is switched off during the hours of darkness despite the presence of persons.	• Ambient light level is above the preset target brightness value • Lighting has been switched off manually.
Lighting does not switch off or lighting switches on spontaneously when no persons are present.	• The switch-off delay time has not yet elapsed • There are sources of thermal interference within the field of detection, e.g. heating or air-conditioning. • There are moving objects within the field of detection, such as curtains next to an open window.
Button does not work.	• Device is still in the start-up phase • Illuminated button has been used without a neutral wire connection. • The button is not routed to the “S terminal”
Lighting switches on and off in warm-up phase.	• Too much artificial light is falling on the detector
Detector does not respond.	• Check the power supply

11 Maintenance, cleaning, and disposal

The ceiling-mounted presence detector does not contain any components that require maintenance. The device can only be replaced as a complete unit.

Do not use corrosive cleaning agents or solvents for cleaning and care of the device. Please use a lint-free cloth that is either dry or dampened only with water.

As the owner, you are required by law to correctly dispose of used devices. Contact your local town council for more information.

12 ESYLUX manufacturer's guarantee

ESYLUX products are tested in accordance with applicable regulations and manufactured with the utmost care. The guarantor, ESYLUX Deutschland GmbH, Postfach 1840, 22908 Ahrensburg, Germany (for Germany) or the relevant ESYLUX distributor in your country (visit www.esylux.com for a complete overview) provides a guarantee against manufacturing/material defects in ESYLUX devices for a period of three years from the date of manufacture.

This guarantee is independent of your legal rights with respect to the seller of the device.

The guarantee does not apply to natural wear and tear, changes/interference caused by environmental factors or damage in transit, nor to damage caused as a result of failure to follow the user or maintenance instructions and/or as a result of improper installation. Any illuminants or batteries supplied with the device are not covered by the guarantee.

The guarantee can only be honoured if the device is sent back to the guarantor with the invoice/receipt, unchanged, packed and with sufficient postage, along with a brief description of the fault, as soon as a defect has been identified.

If the guarantee claim proves justified, the guarantor will, within a reasonable period, either repair the device or replace it. The guarantee does not cover further claims; in particular, the guarantor will not be liable for damages resulting from the device's defectiveness. If the claim is unfounded (e.g. because the guarantee has expired or the fault is not covered by the guarantee), then the guarantor may attempt to repair the device for you for a fee, keeping costs to a minimum.